

REMARKS:

Claims 1-15 are in the case and presented for consideration.

Claims 1-3 and 7-9 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 7,206,429 to Vossler (hereinafter "Vossler").

Claims 4-6 have been rejected under 35 U.S.C. § 103(a) as being obvious from Vossler in view of U.S. Patent No. 6,560,469 to Boesen (hereafter "Boesen").

Applicant respectfully traverses the refusal based on the cited patent references.

It is respectfully submitted that the claims are in condition for allowance.

Applicant has also added new claims 10-15, which have support in the specification. No new matter has been added. Claims 10-13, 15 depend on claim 1 and claim 14 depends on claim 4.

New claim 10 recites a "touch-detecting means (124) coupled to the touch-sensitive area (122)." P. 5, lines 8-17.

New claim 11 recites "a temporal pattern analysis means (125) coupled to the touch-detecting means (124)". P. 5, lines 18-24.

New claim 12 recites that "the controller (120) consists of a disc containing a transducer and a protruding part having the touch-sensitive area (122), whereby the disc fits in a concha of an ear." P. 6, lines 7-14.

New claim 13 claims that the "touch-sensitive area (122) detects a pressure with which the touch-sensitive area is touched." P. 8, lines 12-18.

New claim 14 claims that the "further touch-sensitive area is positioned between the tragus and anti-tragus of the ear during use." P. 6, lines 7-14; Fig. 2.

New claim 15 claims that "the touch-sensitive area by being touched controls a plurality of functions of the personal audio system". Support for this claim is found in the specification (at pp. 2, lines 25-29).

For the reasons stated below, the Office's rejections are respectfully traversed.

Claims 1-3 and 7-9: Response to § 102(e) Rejection

The office action (at p. 2) states, in part, that Vossler discloses a "controller (120) having an outer surface (121) with a touch-sensitive area (122) . . . external controls are touch sensitive."

Vossler does not disclose a touch-sensitive area.

In contrast, Vossler discloses buttons (325, 330, 335, 337, 338, 339) on its ear piece that are used to control audio signals. Col. 4:12-22; Fig. 3. Vossler's buttons are not touch-sensitive. Vossler also generally refers to "external controls" on the audio player (100) but makes no mention that these external controls are touch-sensitive areas. Col. 2:32-33.

Vossler's earpiece has a separate button for each function – "stop", "play", "forward", "back", adjust "volume", "mode advance", "power". A user of Vossler's earpiece selects a function by pressing the corresponding button. Vossler's earpiece is disadvantageous because a user cannot see the buttons when the earpiece is in the user's ear. The inability to see the buttons increases the chances of pressing the wrong button.

Applicant's invention solves this problem with a touch sensitive area. The subject application (at p. 2, lines 12-29), in discussing deficiencies with the prior art, such as

Vossler, and the advantages of applicant's invention, in part, states:

"In addition, the user is not tempted to look at the remote controller, because there is nothing relevant to be seen for controlling the device. **To avoid having to find tiny buttons**, merely touching the remote controller somewhere on its touch-sensitive area operates said remote controller, which detects being touched and subsequently sends the control signal to the device. Also the problem of finding the proper orientation of the remote controller is solved by wearing the remote controller in or by the ear, because its orientation becomes fixed with respect to the user.

* * *

Rather than having more buttons on the remote control that may be hard to distinguish, the single touch-sensitive area is used for controlling the plurality of functions." (Emphasis added).

Thus, independent claim 1 and its dependent claims 2, 3, 15 and independent claims 7, 8, 9 are not anticipated by Vossler for the reasons stated above.

Vossler does not anticipate dependent claim 3 for additional reasons.

Claim 3 recites that "the controller (120) is arranged to detect a temporal pattern in the touch-sensitive area (122) being touched, and to send the control signal (130) in response to detecting the temporal pattern."

In describing a temporal pattern, the specification of the subject application (at p.2, lines 29-33; p. 6, lines 19-25), in part, states:

"The temporal pattern is a particularly appropriate user interface, because it is easy to create temporal patterns in touching the area rhythmically and because the temporal patterns can constitute a natural and consistent interface. An example is a single short tap for pause/play, double short tap for next track, triple short tap for next artist/album and a long tap for adjusting the volume.

* * *

A basic temporal pattern that can be detected is a short tap, which consists of the touch-sensitive area 122 being initially untouched and subsequently

being touched for a short while, and subsequently being untouched again. The short while typically lasts between 40 and 300 milliseconds. Another basic temporal pattern is the long tap, which typically lasts between 400 milliseconds to several seconds. Yet another basic temporal pattern is a repeated long or short tap or another sequence of long and short taps. All of these temporal patterns may each be mapped to functions or capabilities of the device 110.”

A temporal pattern, as disclosed by the subject application, is not simply pressing a button or control.

Vossler only discloses conventional external controls, i.e., buttons, which are used to perform a certain function, such as rewinding or fast-forwarding. These external controls do not receive a temporal pattern, as claimed by the subject application.

Claims 4-6: Response to § 103 Rejection

Claims 4-6, which depend on claim 1, recite a “further touch-sensitive area (123), such that the further touch-sensitive area (123) is touched substantially by the ear (150) when the controller (120) is substantially worn in or by a human ear (150), the controller (120) being arranged to send the control signal (130) only if the further touch-sensitive area (123) is touched.”

Claims 4-6 are not obvious from Vossler in view of Boesen for the same reasons stated above in connection with claim 1. Vossler does not disclose a touch-sensitive area. Nor does Vossler disclose a “further touch-sensitive area”. Vossler’s buttons do not constitute “touch-sensitive areas” as claimed in the subject application. Therefore, since Vossler is missing at least one of the claimed elements, the obviousness rejection with

respect to claims 4-6, it is respectfully submitted, has no support.

The office action (at pp. 4-5) states, in part, that Boesen discloses the “further touch-sensitive area touched substantially by the ear (150) when the controller (120) is substantially worn in or by a human ear (150)” in the form of a conduction sensor.

The office action also states that Vossler discloses a “controller (120) being arranged to send the control signal (130) only if the further touch-sensitive area (123) is touched”. Even assuming that a person of ordinary skill in the art would look to combine Vossler and Boesen, the combination of these cited references does not result in the invention of claim 4.

Vossler is devoid of any teaching or suggestion that Vossler’s external controls send control signals only if a “further touch sensitive area is touched.” As stated above, Vossler does not disclose a “further touch sensitive area”. The office action does specifically refer to any “further touch sensitive area” disclosed in Vossler.

Assuming, *in arguendo*¹, that the external controls or buttons of Vossler constitute “further touch sensitive area”, there is absolutely no suggestion in Vossler that one external control must be touched in order for a different external control to send control signals. The control buttons of Vossler will send control signals regardless of whether a different external control is touched. In fact, touching two external controls may cause Vossler’s audio earpiece to become inoperable. According to the Office’s logic, and in reference to Figure 3 of Vossler, pressing the “Play” button of Vossler’s audio earpiece will

¹ Applicant does not concede that the Vossler buttons or external controls are a “further touch-sensitive area.”

not produce any control signal unless another control button, such as the “Mode” button, is contemporaneously touched. The Vossler audio earpiece would not likely operate under such conditions, where two buttons are contemporaneously pressed.

The conduction sensor of Boesen is not coupled to any touch-sensitive area. Touching the conduction sensor, moreover, does not determine whether another controller sends control signals. Although the conduction sensor contacts the ear’s external auditory channel, the conduction sensor serves a different purpose than the “further touch sensitive area.” The conduction sensor of Boesen must contact the external auditory channel to pick up voice signals through vibrations of the upper wall of the external auditory canal when the user makes voice sounds. Col 3: 48-54.

With respect to dependent claim 6, the office action acknowledges that the “combined teachings of Vossler and Boesen fail to disclose the controller being a second controller” but states that “it would have been obvious to provide a second controller for the reason of providing sound to both ears simultaneously.”

However, the second controller (120) does more than simply provide sound. Claim 6 claims that the “second controller (120) being further arranged to detect a further temporal pattern in the further touch-sensitive area (123) being touched, and to send the further control signal (131) in response to detecting the further temporal pattern.” The record is devoid of any suggestion or teaching of a second controller which detects temporal patterns and sends signals in response to the temporal patterns.

Claims 4-6 are therefore believed to be unobvious over the combination of Vossler

and Boesen.

Accordingly, the application and claims are believed to be in condition for allowance, and favorable action is respectfully requested.

Respectfully submitted,

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